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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,316	07/02/2002	Toshiharu Furukawa	BUR920010222	8270

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EXAMINER
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VU, HUNG K

ART UNIT	PAPER NUMBER
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2811

DATE MAILED: 03/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/064,316

Applicant(s)

FURUKAWA ET AL.

Examiner

Hung K. Vu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 21-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 21-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Invention of Group I, Claims 1-4 and 21-33, in Paper No. 3 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Applicant's election without traverse of Invention of Group I, Claims 1-4 and 21-33, in Paper No. 3 is acknowledged.

### ***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Objections***

3. Claims 21 and 22 are objected to because of the following informalities:

In claim 21, line 1, "each" should be changed to "said at least one" for clarity.

In claim 22, line 1, "one" should be changed to "said" for clarity.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 21-22 and 27-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Chittipeddi (PN 6,426,263).

Chittipeddi discloses, as shown in Figure 10, a semiconductor comprising,

a contact (33) having a portion that extends on two opposing vertical sides of at least one vertical structure (23) adjacent a gate electrode (20).

With regard to claim 2, Chittipeddi discloses the contact contacts a substrate (1) at a source/drain region (27) adjacent the at least one vertical structure. (Note Col. 3, lines 33-37)

With regard to claim 3, Chittipeddi discloses the contact contacts the gate electrode. (Note Col. 3, lines 33-37)

With regard to claim 4, Chittipeddi discloses the contact includes an upper portion that is larger than a lower, contact portion. (Note Figure 10)

With regard to claim 21, Chittipeddi discloses at least one vertical structure is a spacer. (Note Col. 3, lines 19-21)

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With regard to claim 22, Chittipeddi discloses the contact contacts a substrate (1) at a source/drain region (27) adjacent the spacer. (Note Col. 3, lines 33-37)

With regard to claim 27, Chittipeddi discloses, as shown in Figure 10, a semiconductor comprising,

- a gate electrode (20);
- a spacer (23,25) to each side of the gate electrode;
- a contact (33) having a portion that extends on two opposing vertical sides of at least one (23) of the spacers.

With regard to claim 28, Chittipeddi discloses the contact a substrate (1) at a source/drain region (27) adjacent one of the spacers. (Note Col. 3, lines 33-37)

With regard to claim 29, Chittipeddi discloses the contact contacts the gate electrode. (Note Col. 3, lines 33-37)

With regard to claim 30, Chittipeddi discloses the contact includes an upper portion that is larger than a lower, contact portion. (Note Figure 10)

5. Claims 1-4, 21-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Hu (PN 6,100,185).

Hu discloses, as shown in Figure 3, a semiconductor comprising,

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a contact (68,70) having a portion that extends on two opposing vertical sides of at least one vertical structure (64,66) adjacent a gate electrode (60,62). Note that the examiner considers layers 64 and 66 as one integral vertical structure.

With regard to claim 2, Hu discloses the contact contacts a substrate (12) at a diffusion region (67) adjacent the at least one vertical structure. (Note Col. 4, lines 37-39)

With regard to claim 3, Hu discloses the contact contacts the gate electrode. (Note Col. 4, lines 37-39)

With regard to claim 4, Hu discloses the contact includes an upper portion that is larger than a lower, contact portion. (Note Figure 3)

With regard to claim 21, Hu discloses at least one vertical structure is a spacer. (Note Col. 4, lines 13-14)

With regard to claim 22, Hu discloses the contact contacts a substrate (12) at a diffusion region (67) adjacent the spacer. (Note Col. 4, lines 37-39)

With regard to claim 23, Hu discloses the at least one vertical structure includes two vertical structures, one to each side of the gate electrode.

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With regard to claim 24, Hu discloses at least one vertical structure is a spacer. (Note Col. 4, lines 13-14)

With regard to claim 25, Hu discloses the contact a substrate (12) at a diffusion region (67) adjacent one of the spacers. (Note Col. 4, lines 37-39)

With regard to claim 26, Hu discloses the contact contacts the gate electrode. (Note Col. 4, lines 37-39)

With regard to claim 27, Hu discloses, as shown in Figure 3, a semiconductor comprising,

a gate electrode (60,62);

a spacer (64,66) to each side of the gate electrode;

a contact (68,70) having a portion that extends on two opposing vertical sides of at least one of the spacers. Note that the examiner considers layers 64 and 66 as one integral vertical structure.

With regard to claim 28, Hu discloses the contact a substrate (12) at a diffusion region (67) adjacent one of the spacers. (Note Col. 4, lines 37-39)

With regard to claim 29, Hu discloses the contact contacts the gate electrode. (Note Col. 4, lines 37-39)

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With regard to claim 30, Hu discloses the contact includes an upper portion that is larger than a lower, contact portion. (Note Figure 3)

With regard to claim 31, Hu discloses a semiconductor comprising,

a gate electrode (60,62);

a spacer (64,66) positioned on each side of the gate electrode;

a contact (67,70) having a portion that extends on two opposing vertical sides of each spacer. Note that the examiner considers layers 64 and 66 as one integral vertical structure.

With regard to claim 32, Hu discloses the contact contacts the gate electrode. (Note Col. 4, lines 37-39)

With regard to claim 33, Hu discloses the contact includes an upper portion that is larger than a lower contact portion. (Note Figure 3)

### *Conclusion*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung K. Vu whose telephone number is (703) 308-4079. The examiner can normally be reached on Mon-Thurs 7:00-4:30 and every other Friday 7:00-3:30, Eastern Time.

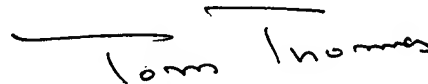
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (703) 308-2772. The fax phone numbers for the



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organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink that reads "Tom Thomas". The signature is written in a cursive style with a horizontal line above the name.

Vu

March 6, 2003

TOM THOMAS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800